

Ground Check Set GC25

USER'S GUIDE

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CHAPTER 1

GENERAL INFORMATION

About This Manual

This manual provides information for installing, operating, and maintaining the GC25 Ground Check Set.

Contents of This Manual

This manual consists of the following chapters:

- Chapter 1, General Information, provides important safety, revision history, and warranty information for the product.
- Chapter 2, Product Overview, introduces the GC25 Ground Check Set features, advantages, and operation principle.
- Chapter 3, Installation, provides you with information that is intended to help you install this product.
- Chapter 4, Operation, contains information that is needed to operate this product.
- Chapter 5, Maintenance, provides information that is needed in basic maintenance of the product.
- Chapter 6, Troubleshooting, describes common problems, their probable causes and remedies, and contact information.
- Chapter 7, Technical Data, provides the technical data of the GC25 Ground Check Set.

Related Manuals

Please refer to your radiosonde and ground equipment documentation for more detailed information on the individual components and software used with the Ground Check Set GC25.

Safety

General Safety Considerations

Throughout the manual, important safety considerations are highlighted as follows:

WARNING

Warning alerts you to a serious hazard. If you do not read and follow instructions very carefully at this point, there is a risk of injury or even death.

CAUTION

Caution warns you of a potential hazard. If you do not read and follow instructions carefully at this point, the product could be damaged or important data could be lost.

NOTE

Note highlights important information on using the product.

Product Related Safety Precautions

The GC25 Ground Check Set delivered to you has been tested for safety and approved as shipped from the factory. Note the following precautions:

WARNING

Ground the product, and verify outdoor installation grounding periodically to minimize shock hazard.

CAUTION

Do not modify the unit. Improper modification can damage the product or lead to malfunction.

Warranty

For certain products Vaisala normally gives a limited one year warranty. Please observe that any such warranty may not be valid in case of damage due to normal wear and tear, exceptional operating conditions, negligent handling or installation, or unauthorized modifications. Please see the applicable supply contract or conditions of sale for details of the warranty for each product.

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CHAPTER 2

PRODUCT OVERVIEW

This chapter introduces the GC25 Ground Check Set features, advantages, and operation principle.

Introduction to GC25 Ground Check Unit

The GC25 Ground Check Set is used to check the functioning of the radiosonde and the sensor accuracy, as well as set the frequency of the radiosonde. The GC25 is designed to be used with RS92 Digital and Analog radiosondes.

The GC25 Ground Check Set includes desiccant for 0% RH humidity reference. A glass jar with desiccant is also provided.

For optimum performance, the GC25 must be properly calibrated and the calibration must be valid. The desiccant must also be dry. This will ensure that the unit will give accurate and reliable readings.

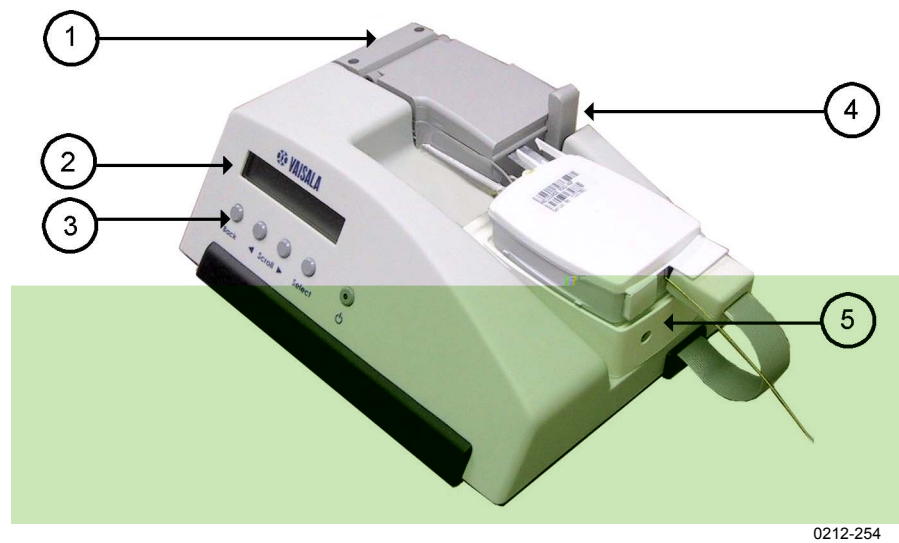


Figure 1 GC25 Ground Check Set

The following numbers refer to Figure 1 above:

- 1 = Chamber
- 2 = Display
- 3 = Buttons
- 4 = Chamber clasp
- 5 = Radiosonde tray

The GC25 has a power supply and communication connector for the radiosonde. The GC25 unit is equipped with a display and buttons used to control the radiosonde.

Operation Modes

GC25 can be operated in two modes: Stand-alone and Network mode.

In Network mode GC25 is connected to DigiCORA via cable and is operated with the help of DigiCORA Sounding Software.

In Stand-alone mode GC25 is operated using the interface buttons on the GC25 unit.

If you are using a DigiCORA sounding system which has a software supporting GC25 communication, the GC25 can be used in Stand-alone or Network mode. Other systems and older software versions can only be used in Stand-alone mode. See Table 1 below for details.

Table 1 Operation Mode Compatibility for GC25

DigiCORA Sounding System	GC25 Operation Modes
MW1x	Stand Alone
MW21 software version < 3.12	Stand Alone
MW21, MW31 software version >= 3.12	Stand Alone or Network

Ground Check Phases

A ground check performed with the GC25 Ground Check Set is used to fine-tune the measurements of meteorological parameters with the RS92 Radiosonde before sounding. The ground check is carried out in the following phases.

Reconditioning

To get optimum performance from the RS92 humidity sensors, the ground check includes a phase for removing possible sensor contamination. If any contamination has occurred before sonde launch, for example in storage, this can be removed by sensor reconditioning.

Contamination of the humidity sensor causes dry bias to humidity measurement. Contaminating molecules occupy water-binding sites and the effect may vary between zero to a few percent of relative humidity, indicating readings that are too low. In the preparation phase, the radiosonde is attached to the Ground Check set and reconditioning power is connected to the humidity sensors for 3 minutes. Depending on the ground equipment in use, either the GC25 unit or ground equipment will ask you to conduct the reconditioning.

Setting the Frequency

In this phase, the RS92 Digital Radiosonde transmitter can be tuned and set to a specific frequency.

NOTE

RS92-K and RS92-KL Analog Radiosondes frequencies are tuned differently to Digital Radiosondes. Refer to the RS92-K and RS92-KL user manual for frequency setting information.

Setting the Timer (Killer)

In this phase, the timer can be set to shut off the radiosonde's transmitter at a pre-selected time from launch.

Conducting a Ground Check

When the GC25 unit is in the actual ground check phase, the radiosonde sensors are compared to references. The temperature readings are displayed on the GC25 display. The chamber unit of the GC25 contains the desiccant, drying agent, for 0 % humidity reference. For pressure reading, a separate reference is needed. The user gives the reference values to the ground equipment, which compares them to those given by the radiosonde and makes the necessary corrections. If used in Network mode, this is done automatically via cable, not including pressure reference values. Read pressure values from a reliable reference.

We recommend corrections only to be done with properly maintained and calibrated units. Otherwise it is recommended to not conduct GC-corrections.

CHAPTER 3

INSTALLATION

This chapter provides you with information that is intended to help you install this product.

Getting Started

Connections

Stand-Alone Mode

When setting up the GC25 as a stand-alone ground check set, connect the power supply connector to the connector marked POWER. Then connect the Power Supply cable.

Press power and the display should read Connect Cable to Sonde. The GC25 is now ready for use.

Network Mode

Connect the power supply connector to the connector marked POWER. Then connect the Power Supply cable.

To use the GC25 with DigiCORA system in network mode, connect the direct RS-232 cable to the slanted serial connector (on the back of the GC25 unit) and the PC's serial port. Secure the cable with screws. This cable is delivered with the GC25 Set.

Press power and the display should read Connect Cable to Sonde. The GC25 is now ready for use.

Desiccant

With first installation of the GC25 unit, please follow the Filling the Chamber with Desiccant step list below carefully.

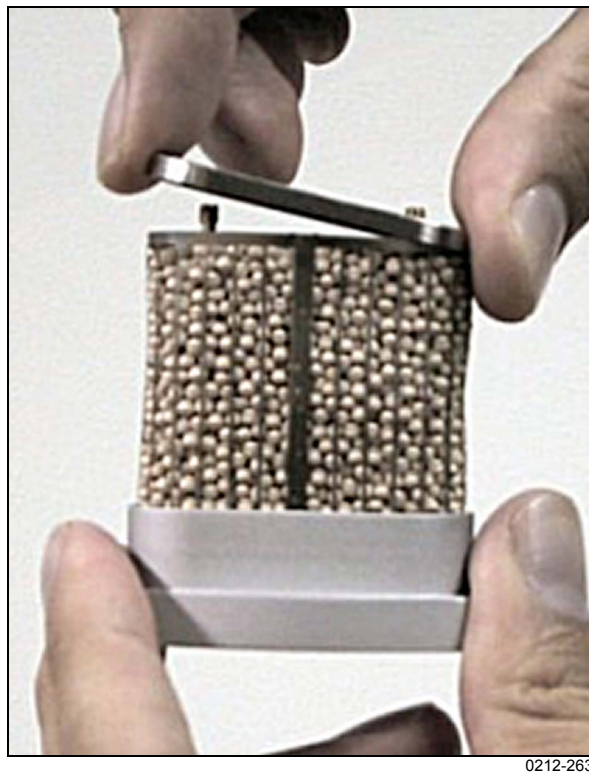
NOTE

As the desiccant beads require drying, it is convenient to use more than one desiccant cartridge with the GC25 unit. With several cartridges, they can be used in rotation. This way there is no need to open and refill the cartridge with desiccant beads for drying purposes. Extra cartridges can be ordered from Vaisala.

Filling the Chamber with Desiccant

During first installation:

1. Pull out the desiccant cartridge from the side of the chamber. For details refer to Figure 1 on page 8.
2. Hold the base firmly and open the top of the desiccant cartridge. Turn the screws to release the metal top. See Figure 2 on page 13 for details.



0212-263

Figure 2 **Open Desiccant Cartridge**

NOTE

Be careful not to deform or damage the metal netting. Always hold the cartridge by the metal base.

3. Fill the metal net enclosure with desiccant beads.
4. Place the top of the desiccant cartridge into place.
5. Close the screws to secure the metal top into place.
6. Place the desiccant cartridge back into the side of the chamber.

NOTE

Always make sure the chamber cover of the GC25 Ground Check set is properly closed.

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CHAPTER 4

OPERATION

This chapter contains information that is needed to operate this product.

Operating Instructions

NOTE

When installed in Network Mode, the GC25 and DigiCORA communicate automatically via cable. In this case, do not press the buttons on the GC25 unit (other than ON/OFF) as this will disrupt communications. Pressure reference values need to be read from a separate reliable pressure reference source.

The GC25 Ground Check set is used to prepare the radiosonde for optimal performance. This is done in four stages:

- Reconditioning, the radiosonde is prepared for ground check.
- Frequency tuning, the frequency is set.
- Timer setting, the radiosonde transmitter operation time is set.
- Ground check, the transmitter is on, comparing PTU values.

NOTE

To conduct successful ground check corrections, you must have reliable, calibrated, and valid PTU references available. If no such references are available, it is recommended to leave out the ground check corrections phase.

User Interface

NOTE

Note that when the GC25 is installed in Network Mode, the GC25 and DigiCORA communicate automatically via cable. In this case, do not press the buttons on the GC25 unit (other than ON/OFF) as this will disrupt communications.

The GC25 Ground Check set has an LCD display and five buttons. Below is a description of each button and its function.

Back	=	Use this button to return to the previous menu.
Left Arrow	=	Use this button to scroll left.
Right Arrow	=	Use this button to scroll right.
Select	=	Use this button to make your selection.
Power	=	Switches power on and off to the GC25 unit.

GC25 Connections

In the following figure, the GC25 cable connections are shown in detail. The serial cable is connected to the PC, enabling Network mode. Refer to DigiCORA documentation for connection to PC.

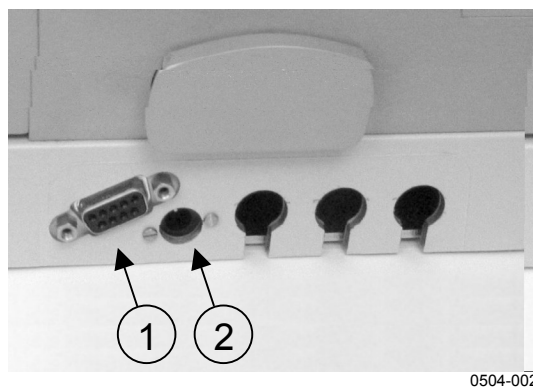


Figure 3 **GC25 Cable Connections**

The following numbers refer to Figure 3 above:

- 1 = Serial cable connection to PC for Network mode
- 2 = Power cable connection

Radioonde Placement

The proper way to place the radioonde into the GC25 Ground Check Set is described below.

1. Push back the clasp of the chamber and open the cover.
2. Place the radioonde carefully (with the dummy battery cover) onto its tray, gently setting the sensor boom into the chamber.

CAUTION

Rough handling of the chamber cover can damage the sensor boom.

3. Gently close the chamber cover and carefully fasten the clasp.

CAUTION

Be careful not to touch or hit the RS92 sensors on the sensor boom, as the sensors are fragile.

4. With the radioonde in place, lift the flap at the back of the radioonde and carefully connect the radioonde connector to the radioonde. Be careful not to move the radioonde, so as to not damage the sensor boom in the chamber. Figure 4 on page 18 illustrates the correct placement of the radioonde into the GC25 unit.

CAUTION

Make sure the UP text on the radioonde connector plug is facing up.

CAUTION

Make sure the radioonde connector is connected to the radioonde with the UP text facing up, without turning the flatwire.



0212-244

Figure 4 **RS92 Digital Radiosonde in GC25 Ground Check Set**

CAUTION

Be careful not to touch the RS92 sensors on the sensor boom. The temperature sensor is very fragile.

Radiosonde Preparation

Use the display and buttons to conduct the ground check. However, if the GC25 is connected to DigiCORA via cable do not use the buttons on the GC25 unit.

The functioning of the display and buttons are explained in section User Interface on page 16. Switch on the GC25 unit by pressing the power button. When the GC25 is on, the green LED light is lit. The following text will appear:

Connect Cable to Sonde.

The ground check will automatically begin when an RS92 radiosonde has been connected to it.

Reconditioning

NOTE

The following steps are only required if you are using the GC25 in stand-alone mode. Otherwise, DigiCORA software will complete the following steps automatically.

1. The GC25 unit will ask if you wish to recondition. The following text will appear:

Recond. U-sensor?
YES

Reply **YES** or **NO** using the arrow buttons and press **Select** to confirm your choice. If you choose to recondition, this will take approximately three minutes.

Reconditiong...
Remaining: 1:41

During reconditioning the Remaining time is displayed. Note that, if the time is not shown, or an error message is given (for example, Communication Error), the radiosonde connection needs to be checked; disconnect and then reconnect the radiosonde and restart the ground check.

NOTE

The following steps are only required if you are using the GC25 in stand-alone mode. Otherwise, DigiCORA software will complete the following steps automatically.

Frequency Setting

NOTE

When using RS92-K and RS92-KL Analog Radiosondes, the GC25 unit will automatically skip Frequency Setting, and go to Ground Check stage on page 20.

NOTE

RS92-K and RS92-KL Analog Radiosondes frequencies are tuned differently to Digital Radiosondes. Refer to the RS92-K and RS92-KL user manual for frequency setting information.

2. Next the GC25 unit will ask you to set the frequency, the display will show the radiosonde factory default value. The following text will appear:

Frequency: 405.35 MHz
Tune freq.? NO

If you do not want to tune the frequency, press **Select**. If you wish to tune the frequency, use the arrow key to select **YES** and press **Select**. Then use the arrow buttons to scroll for the desired frequency and press **Select** to confirm your choice.

Note that, if nothing is displayed during frequency setting, or an error message is given (for example, Communication Error), the radiosonde connection needs to be checked; disconnect and then reconnect the radiosonde and restart the ground check.

3. Next you will enter the Timer Set mode, press **Select** to continue.

Timer Setting

NOTE

The following steps are only required if you are using the GC25 in stand-alone mode. Otherwise, DigiCORA software will complete the following steps automatically.

4. The timer is used to shut off the transmitter at pre-selected time from release (launch). The following text will appear on the display:

Timer: disabled
Set Timer? NO

Select either **YES** or **NO** using the scroll buttons and press **Select** to confirm your selection. Then hold down the arrow buttons to scroll the timer either UP or DOWN. Note that 15 minutes is the minimum selectable time. When the value is scrolled under 15 minutes, the timer will be disabled. Press **Select** to confirm your choice. To re-set, press **Back**. Then select **YES** again to re-set a new time, or to disable the timer.

5. When the timer has been set, you will enter ground check mode.

Ground Check

NOTE

The following steps are only required if you are using the GC25 in stand-alone mode. Otherwise, DigiCORA software will complete the following steps automatically.

At this stage, please wait until GC25 informs you the conditions have been stabilized. This can take 2 minutes after reconditioning has ended.

6. The radiosonde transmitter is enabled.
7. Enter temperature value into the ground equipment, when the ground equipment asks for them. The temperature is shown on the GC25 unit's display as follows:

Reference:

T = 23.45 °C

8. Humidity, at this stage, is 0%. Make sure that the desiccant beads are completely dry. Enter 0% for humidity into the ground equipment. This value is achieved after the chamber has been stabilized.

NOTE

If humidity levels begin to rise, and changing the desiccant beads has not helped to correct this, check to see if the fan is working. There should be an audible humming noise.

9. Once the PTU values have been given to the ground equipment, the ground check is complete.

Carefully remove the radiosonde (do not damage the sensors) from the GC25 unit and prepare the radiosonde for launch.

Now the radiosonde can be prepared for launch. For details, refer to the appropriate RS92 radiosonde manual. See Related Manuals on page 4 for further information.

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CHAPTER 5

MAINTENANCE

This chapter provides information that is needed in basic maintenance of the product.

Desiccant Drying

The granules of the desiccant absorb humidity, thus maintaining a relative humidity of 0 % in the chamber.

The used desiccant is kept in a glass container (second glass container). When enough of the desiccant has accumulated (about half a bottle), it can be regenerated (dried). An alternative way to use and maintain desiccant beads is by using more than one desiccant cartridge and several glass jars. Do not open the desiccant cartridge until it is absolutely necessary.

NOTE

Direct exposure to the sun or other source of heat such as keeping a hand on the cup for a long time will cause incorrect temperature and humidity readings.

NOTE

The desiccant beads can also be dried by placing the cartridge with desiccant in the jar into the oven. This way you do not need to open the cartridge.

NOTE

The use of more than one desiccant cartridge will ease the ground check procedure. Extra cartridges can be ordered from Vaisala.

Proceed in the following way:

1. Put the glass container with the used drying agent or cartridge into an oven. Remove the container cover.
2. Raise the oven temperature to +250 °C (or more) and maintain this temperature for three hours.
3. Let the oven cool down.
4. Remove the container from the oven when the temperature is below +70 °C and close the container cover.
5. The drying agent is now ready for use again.

The desiccant beads need to be changed at certain time intervals (for example regularly once a month), depending on the humidity levels in the area and the number of soundings conducted, however latest when humidity reading is 2 % RH.

Calibration of Temperature Reference

The recommended calibration interval for temperature reference is one year. Please contact Vaisala (helpdesk@vaisala.com) to order temperature reference calibration.

In practice, calibration will be done by replacing your current temperature reference unit with a new one. Upon receiving the new temperature reference unit, install it as explained in section Replacement of Temperature Reference Unit below and return the old unit to Vaisala.

The calibration date can be checked as explained in Software Version and Calibration Information on page 32.

Replacement of Temperature Reference Unit

Detailed information on how to replace the temperature reference unit is explained in below:

CAUTION	Disconnect power to the GC25 unit completely before replacing the sensor unit.
----------------	--

CAUTION

Always follow ESD protection guidelines when making adjustments to the Ground Check Set.

Refer to Figure 15 on page 34 for a detailed board connections illustration.

To replace the temperature reference unit, you will need a flathead screwdriver and a 2.5-mm hex-key.

1. With the GC25 unit switched off, turn the unit over and open the bottom cover by removing the four large screws at each corner using the flathead screwdriver. Remove the plate.



Figure 5 Unscrew Back Plate

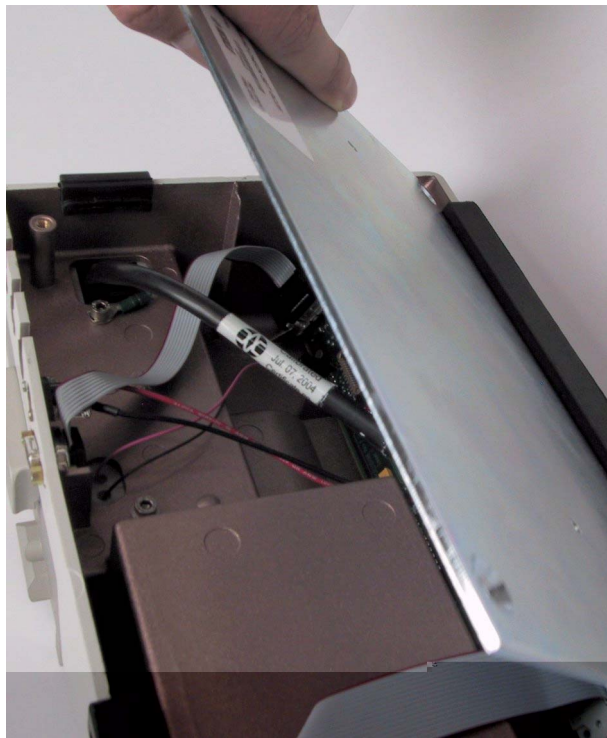


Figure 6 Remove Back Plate

2. Unclip and pull out the sensor chord from its connector by pulling the hinges open to the sides as shown in the following picture.

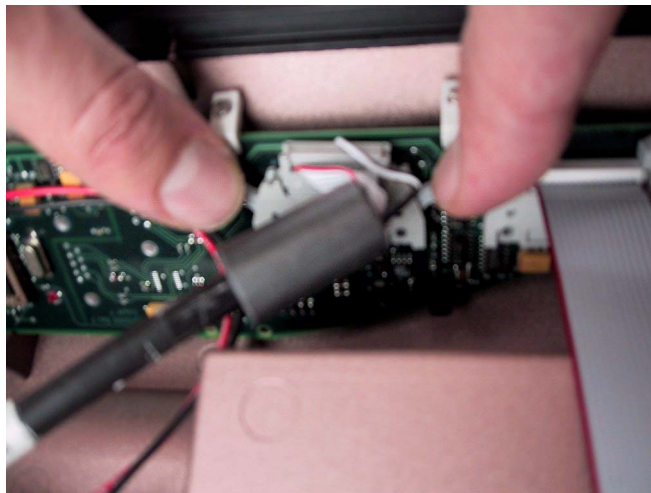


Figure 7 Unlock the Sensor Chord

3. Turn the unit around. Remove the two screws on the top of the chamber using the 2.5-mm hex-key as shown in Figure 8 on page 27.

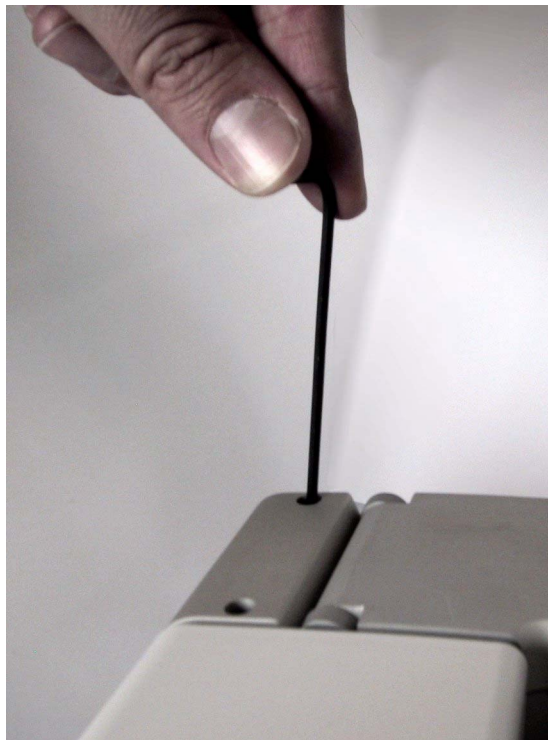


Figure 8 Remove Chamber Screws

4. Turn the GC25 unit over. You can see the thick sensor chord from which a small wire (the fan wire) is connected to the PCB and a second ground wire, which is attached to one of the chamber screws.
 - First, disconnect the black fan wire from the PCB. Indicated with a white arrow in the following image.



Figure 9 Remove Fan Wire

- Then, unscrew the two silver screws which hold the chamber in place. See the following image for details.

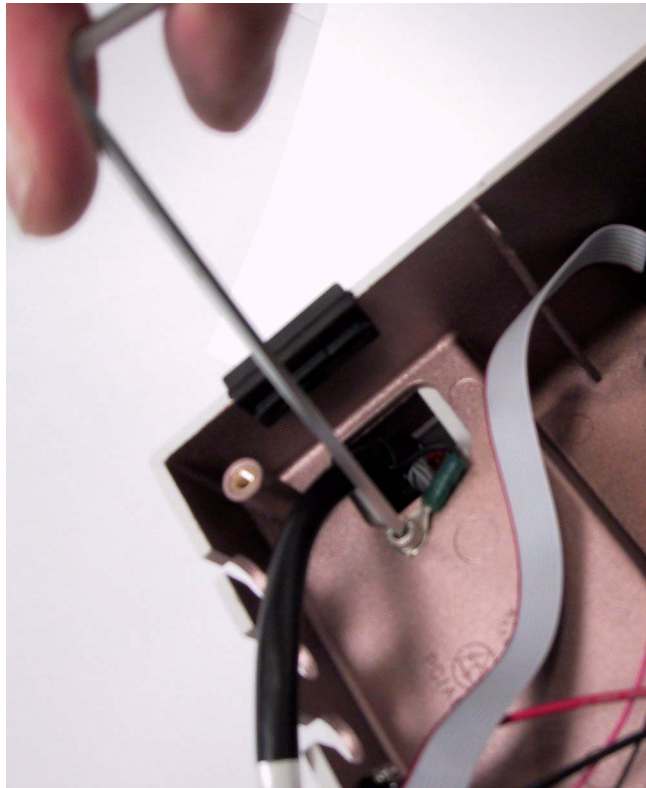


Figure 10 Remove Chamber Screws

5. Turn the unit around and carefully lift the chamber out of its place. Set down the GC25 and carefully remove the sensor unit from the chamber, see the following Note and refer to Figure 11 on page 29.

NOTE

When removing the sensor unit, take care not to damage the sensors against the sides or walls of the chamber.

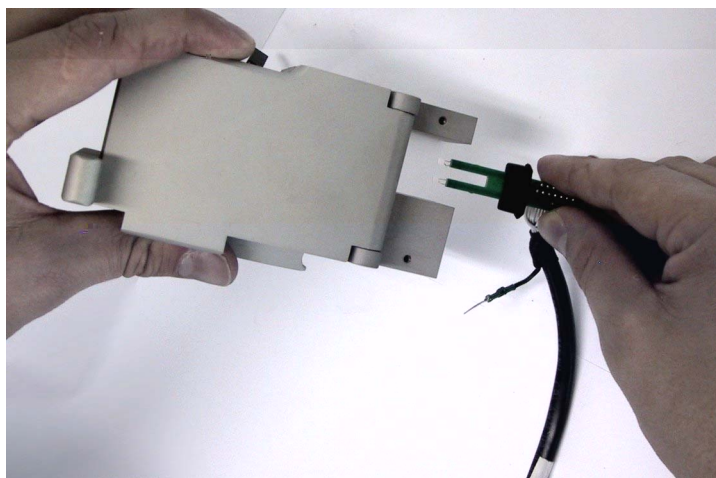


Figure 11 Remove Sensor from Chamber

6. The old sensor chord has now been successfully removed. Please send the old sensor chord back to Vaisala.
7. Remove the protective cap from the new sensor with care. Be careful not to damage the sensors!



Figure 12 New Sensor Chord with Protective Cap

8. Place the new sensor into the chamber firmly but carefully. Once again pay attention to the rubber seal, make sure the seal is set properly into place, making the hole airtight. See the following figure.

NOTE

When placing the new sensor into place, take care not to damage or hit the sensors against the sides or walls of the chamber.

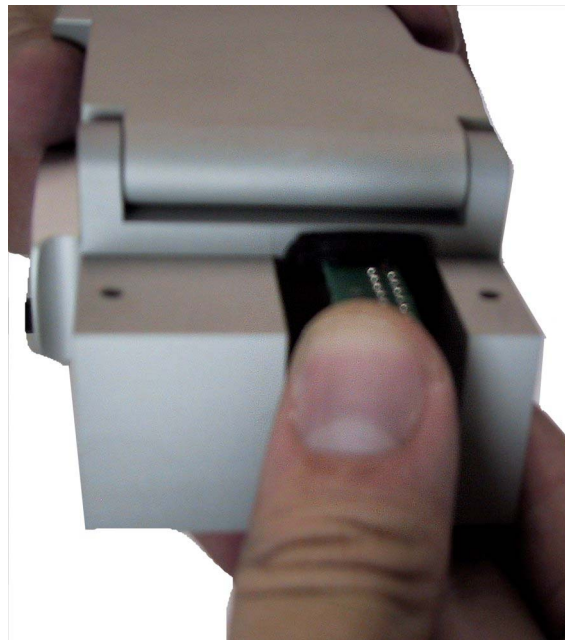


Figure 13 Press Sensor Gently into Place

9. Feed the cable of the new sensor unit through the hole of the GC25 unit and set the chamber back into position.
 - First, put the two silver screws back into place, making sure that the ground wire from the new sensor cable is connected beneath the second screw.

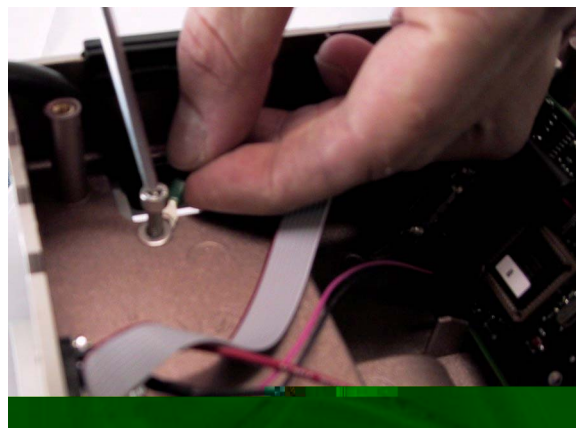


Figure 14 Secure Ground Wire and Chamber Screws

- Connect the black fan wire to the printed circuit board (PCB).

NOTE

Make sure the black fan wire is reconnected properly so that the three pins are secured into the cap.

10. Secure the chamber back into place with the two screws. Refer to Figure 8 on page 27.
11. Connect the sensor chord connector head to the clip by closing the clip hinges. See Figure 7 on page 26.
12. Finally close the bottom of the unit and secure the plate back into place with the four screws.

Replacement of Ventilation Motor

To determine if the ventilation motor is functioning properly open the GC25 chamber cover in ground check mode. If the motor is not buzzing and air is not circulating, the ventilation motor will need to be replaced. Follow the steps below to replace the ventilation motor.

CAUTION

Disconnect power to the GC25 unit completely before replacing the chamber unit.

CAUTION

Always follow ESD protection guidelines when making adjustments to the Ground Check Set.

Refer to Figure 15 on page 34 for a detailed board connections illustration.

1. Open the bottom of the of the GC25 unit by removing the two large screws.
2. Remove the motor connector by opening the connector clip hinges of connector clip located on the left.
3. Next, open the chamber cover and remove the ventilation plate.
4. Gently lift the chamber motor from its place, pulling out the flat wire from inside the unit.
5. Put the new ventilation motor into place.
6. Connect the wire to the connector clip and make sure the hinges are properly fastened.
7. Close the bottom cover of the GC25 unit.

Replacement of Spare Sonde Cable

The radiosonde cable may need to be replaced when error messages are frequent or the connector no longer connects to the sonde with ease.

CAUTION

Disconnect power to the GC25 unit completely before replacing the chamber unit.

CAUTION

Always follow ESD protection guidelines when making adjustments to the Ground Check Set.

1. Open the bottom of the GC25 unit by removing the four large screws.
2. Disconnect the sonde cable (see Figure 15 on page 34 for details) by opening the connector clip hinges of the connector clip located on the left.
3. Remove the rubber bushing from the old sonde cable.
4. Attach the rubber bushing to the new sonde cable.
5. Connect the new cable to the connector clip on the left. The cable is marked **Sonde cable** in Figure 15 on page 34.
6. With the clip secured in place, twist the wire slightly to ensure that the UP text faces up.

NOTE

Make sure the UP text on the new sonde cable is facing upward to ensure correct connection to radiosonde.

Software Version and Calibration Information

With no radiosonde connected, and the GC25 power on, press the right down arrow to view the calibration date on the LCD display. If a year has passed since the date displayed, the calibration is no longer valid. In this case refer to Calibration on page 24.

With no radiosonde connected, and the GC25 power on, press the left down arrow to view the calibration number (top line) and software

version (bottom line) on the LCD display. Turn power off and on to continue.

Software Updates

NOTE

Software updates are only to be done when necessary. The GC25 software can be updated as you update DigiCORA software. Also, Vaisala may separately request that the GC25 software is updated.

To update the GC25 software it must be connected to a PC. This can be done using the RS-232 cable provided with the GC25.

The GC25 software is updated using GC25 Flash Programmer. To check for software updates:

1. Start GC25 Flash Programmer and press the **Update** button.
2. Then switch off the GC25 (if it isn't already).
3. Press and hold down the **Back** button
4. Switch on the power without releasing the **Back** button.

The upper line should be a row of dark squares. You are now in software update mode. Flash Program will automatically begin to update the GC25 via cable. At this stage do not press other buttons or switch off the GC25 unit. When complete, the PC will display a window indicating the update is ready.

Parts List

The table below lists spare parts available for the GC25 unit.

Table 2 Available Spare Parts

Spare Part	Order Code
Ventilation motor fan	212196
Spare sonde cable	DRW214987
Calibrated PT-100 sensor unit	DRW215049
Desiccant cartridge	DRW214686
Desiccant beads	4161GC
Empty glass jar for desiccant/cartridge	4162GC

NOTE

When ordering a new desiccant cartridge, it is recommended to also order the empty glass jar for drying purposes.

PCB Connections

Figure 15 below provides a detailed illustration of the board connections inside the GC25 unit.

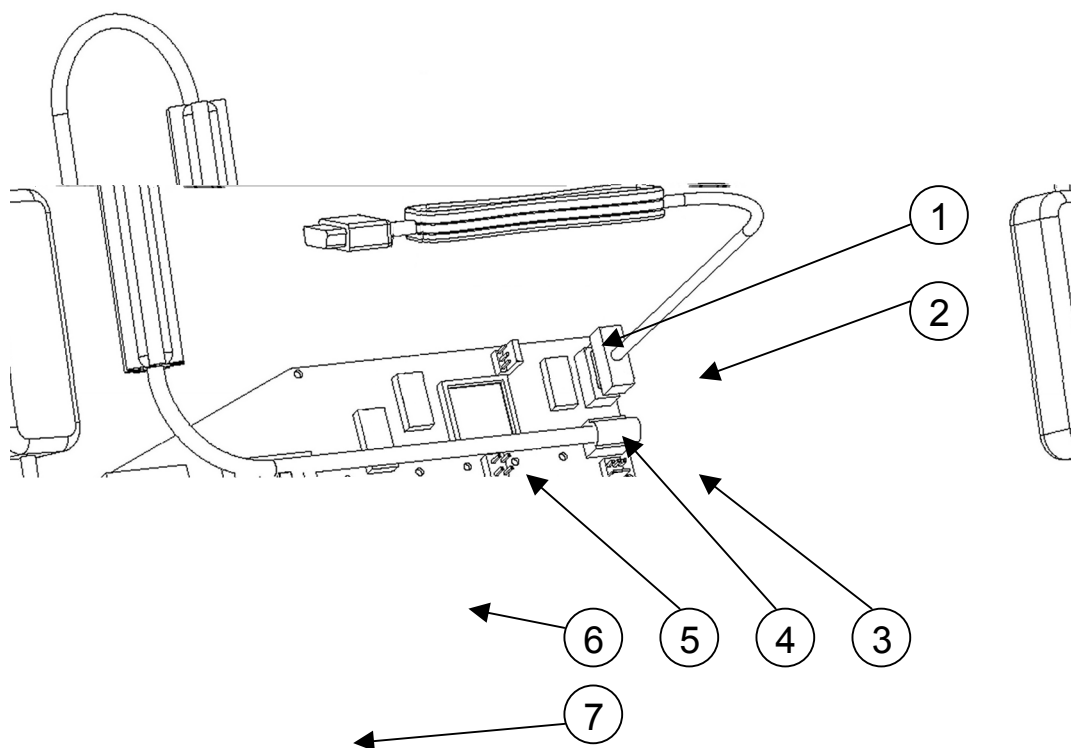


Figure 15 Board Connections

The following numbers refer to Figure 15 above:

1. Fan connector
2. Ground equipment cable (connect to PC for Network mode operation, not needed for Stand-alone operation.)
3. Optional AUTOSONDE -reset
4. Power
5. Printed circuit board (PCB)
6. PT sensor unit (Part no. DRW215049)
7. Sonde cable (Part no. DRW214987)

CHAPTER 6

TROUBLESHOOTING

This chapter describes common problems, their probable causes and remedies, and contact information.

Common Problems

Table 3 Some Common Problems and their Remedies

Problem	Probable Cause	Remedy
Frequency is not shown or displayed	Radiosonde connection cable is loose	Check cable, reconnect if necessary
Remaining time is not shown for ground check	Radiosonde connection cable is loose	Check cable, reconnect if necessary
Display reads Communication Error	Radiosonde connection cable is loose	Check cable, reconnect if necessary
LCD reads "Check Desiccant! Press Select"	Desiccant beads are wet	Recondition desiccant beads.
LCD reads "Check Temp Sensor"	The sensor is bent	See Figure 16 on page 36 for correct positioning of chamber sensors.
Humidity levels begin to rise	The fan is not working	Check if the fan is spinning, there should be an audible humming noise.
Temperature unit error	PT-sensor unit malfunctioning or loose	Check PT-sensor connection
Invalid calibration info	There is a discrepancy between calibration values, failed temperature calculations	Check PT-sensor cable. Contact HelpDesk.

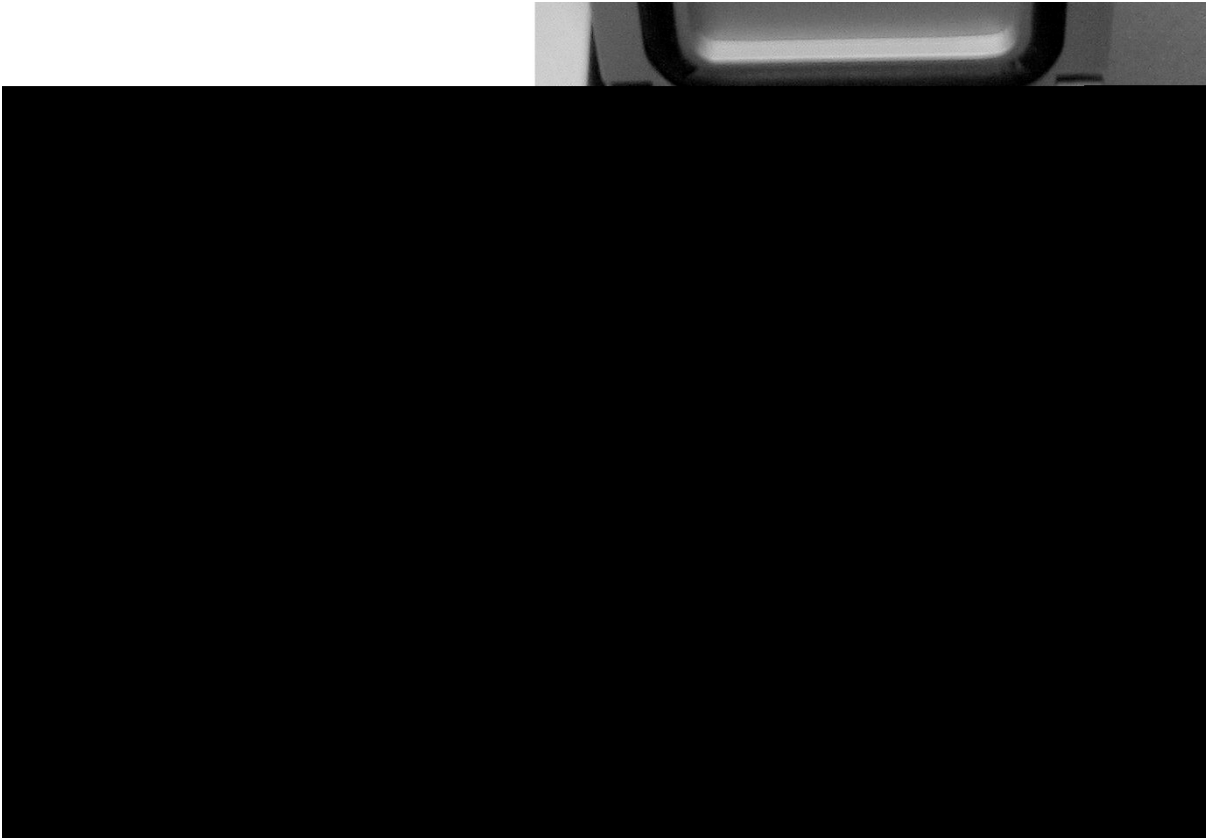


Figure 16 Correct Position for Chamber Sensors

Getting Help

For technical questions or for comments on the manuals, contact the Vaisala technical support:

E-mail	helpdesk@vaisala.com
Telephone	+358 9 8949 2789
Fax	+358 9 8949 2790

Return Instructions

If the product needs repair, please follow the instructions below to speed up the process and avoid extra costs.

1. Read the warranty information.
2. Write a Problem Report with the name and contact information of a technically competent person who can provide further information on the problem.
3. On the Problem Report, please explain:
 - What failed (what worked / did not work)?
 - Where did it fail (location and environment)?
 - When did it fail (date, immediately / after a while / periodically / randomly)?
 - How many failed (only one defect / other same or similar defects / several failures in one unit)?
 - What was connected to the product and to which connectors?
 - Input power source type, voltage and list of other items (lighting, heaters, motors etc.) that were connected to the same power output.
 - What was done when the failure was noticed?
4. Include a detailed return address with your preferred shipping method on the Problem Report.
5. Pack the faulty product using an ESD protection bag of good quality with proper cushioning material in a strong box of adequate size. Please include the Problem Report in the same box.
6. Send the box to:
Vaisala Oyj
Contact person / Division
Vanha Nurmijärventie 21
FIN-01670 Vantaa
Finland

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CHAPTER 7

TECHNICAL DATA

This chapter provides the technical data of the GC25 Ground Check Set.

Specifications

Table 4 GC25 Ground Check Set Specifications

Property	Description / Value
Operating conditions	
Humidity	0 ... 85% RH
Temperature	+5 ... +45 °C
Temperature sensor	Pt-100 IEC 751
- Uncertainty ¹⁾	0.1 °C
- Resolution	0.01 °C
Storage temperature	-40 ... +70 °C
Dimensions	25 cm (w) x 18 cm (d) x 9 cm (h) ²⁾
Weight	2.1 kg
Power supply	
Input	100 - 240V (47 - 63 MHz)
Output	16V DC
Power consumption	6 W
Connectors	Ground equipment External pressure reference Power supply
Drying agent	Molecular sieve pellets, regenerable

1) One-year calibration intervals ensure the validity of uncertainty values (+5 to +45 °C).

2) Dimensions: weight x depth x height